U.S. Appln. No.: 09/518,099

AMENDMENTS TO THE SPECIFICATION

The specification is changed as follows:

Please amend the paragraph bridging pages 11-13 as follows:

D'

The logical printer driver converts data of the application into a print job 1300 shown in FIG. 11 and stores the print job 1300 in a spool 204. The print job 1300 comprises print information 1320 recording the print instruction contents and print data 1310 of the PDL recording the drawing contents. When the print job 1300 is stored in the spool 204, a spool control section 203 interprets the print information 1320. First, the print information 1320 is checked on the print mode 800. If the storage 802 is not set to store the print job in the printer 100 (Setting contents = No), no operation is performed. If the storage 802 is set to store the print job in the printer 100 (Setting contents = Yes), the storage format 810 is checked. If the PDL 811 is not set to store the PDL document (Setting contents = No), no operation is performed. If the PDL 802 is set to store the PDL document (Setting contents = Yes), the print job 1300 is copied into an archive 202 and is stored therein. Next, the print 801 is checked. If the print 801 is not set to print the print job onto the sheet (Setting contents = No), no operation is performed. If print 801 is set to print the print job onto the sheet (Setting contents = Yes), the print job 1300 is sent to a PDL processing section 206, which then processes the print job data 1310 in accordance with the output format 860 in the print information 1320.

Here, as a processing example, processing of 2UP will be discussed with <u>reference to</u>
FIGS. 7 and 8. First, the format of the print data 1310 of the PDL will be discussed. The print data 1310 is in a general PDL format as shown in FIG. 7. The print data 1310 begins with a header 910. Generally, a print execution user name, application name, and the like are described

U.S. Appln. No.: 09/518,099

in the header 910. The header 910 is followed by data concerning page 1 (920) to page N (950). The data concerning each page is similar and the page 1 (920) is used to describe the format. The page 1 (920) comprises drawing data 921 describing drawing on the page 1 in a programming language and an output instruction 922 indicating the end of the page 1 (920). If the page 1 (920) does not contain the output instruction 922, it is not output even if the drawing data 921 is executed.

FIG. 8 shows the print data 1310 in FIG. 7 processed to the 2UP. Since an output instruction 1022 is deleted, drawing data 1021 is not output and subsequently drawing data 1031 on page 2 (1030) is executed. Since the page 2 (1030) contains an output instruction 1032, here the drawing data 1021 on page 1 (1020) and the drawing data 1031 on the page 2 (1030) are output together. Likewise, the subsequent data is output for two pages at a time upto up to page N (1050).

Please amend the paragraph bridging pages 15-17 as follows:

As shown in FIG. 12, a print job 1300 prepared by a logical printer driver 302 is stored in a spool 204 and is sent to an interpreter section 207, as previously described in the first embodiment. The print data of the sent print job 1300 is converted into a dot image and print data 1310 is overwritten with the print data in the dot image, then the print data in the dot image is stored in an output work 209. An output control section 208 interprets print information 1320. First, the print information 1320 is checked on a print mode 800. If the storage 802 is not set to store the print job in the printer (Setting contents = No), no operation is performed. If the storage 802 is set to store the print job in the printer (Setting contents = Yes), a storage format 810 is

U.S. Appln. No.: 09/518,099

checked. If the dot image 812 is not set to store the dot image (Setting contents = No), no operation is performed. If the dot image 812 is set to store the dot image (Setting contents = Yes), the print job 1300 is copied into an archive 202 and is stored therein. Next, the print 801 is checked. If the print 801 is not set to print the print job onto the sheet (Setting contents = No), no operation is performed. If the print 801 is set to print the print job onto the sheet (Setting contents = Yes), the print job 1300 is sent to a dot image processing section 205, which then processes the print job data 1310 in accordance with an output format 860 in the print information 1320.

Here, as a processing example, processing of the 2UP will be discussed with reference to FIGS. 9 and 10. First, the format of the print data 1310 of dot image will be discussed. The print data 1310 is in a general dot image format as shown in FIG. 9. The print data 1310 begins with a header 1110. Generally, a print execution user name, application name, and the like are described in the header 1110. The header 1110 is followed by data concerning page 1 (1120) to page N (1150). The data concerning each page is similar and the page 1 (1120) is used to describe the format. The page 1 (1120) consists of page 1 drawing data 1122 describing drawing on the page 1 in a binary format and page 1 drawing data size 1121 indicating the size of the data. FIG. 10 shows the print data 1310 in FIG. 9 processed to the 2UP. New page 1 (122 0) comprises a listing of the page 1 (1120) and page 2 (1130). New page 1 drawing data size indicates the total size of the page 1 drawing data size 1121 and page 2 drawing data size 1131, and new page 1 drawing data 1222 is provided by combining the page 1 drawing data 1122 and page 2 drawing data 1132. Likewise, the subsequent data is arranged for two pages at a time to new page N/2 (1150). The print job 1300 containing the print data 1310 thus processed is sent to

Attorney Docket # Q58148

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 09/518,099

the output work 209. The output control section 208 outputs the print data 1310 to a print engine 500 in accordance with the print information 1320.

Thus, needs for outputting in various formats in response to the application in the print system are high and the dot image needs to be processed. However, it is extremely difficult to restore the combined and processed dot image to the original or convert the combined and processed dot image into a different format. Hitherto, stored print data has already been processed and unable to be again printed in a different format and has been again printed only in the stored format. To print the print data in a different format, it has been necessary to again output the print data from the beginning from the application. In the invention, to store the print job, the standard print job is stored as the original and when the print job is actually printed, the print data is processed in accordance with the print information, whereby the print job can be reprinted in the format responsive to the application as many times as required. The dot image is in the format in which it can be output to the printer engine intact, and the dot image is stored in the format, thus making it possible to print the dot image at high speed.

Please amend the paragraph bridging pages 21 and 22 as follows:

First, the reprinting procedure described in the first embodiment, the second embodiment, the third embodiment, and the fourth embodiment will be discussed using an example. FIG. 17 is a state diagram to show storing of Documentl (1610) in an archive 202 as a print job. The Documentl (1610) is made up of print data 1611 and added print information 1612 and print information 1 (1613) as print information. When a reprinting instruction of the Documentl (1610) is given from a computer 300, a spool control section 203 moves print information to a

Attorney Docket # Q58148

U.S. Appln. No.: 09/518,099

spool 204. For example, if "print information 1" is selected in a print information name 3410 on an instruction screen in FIG. 24, the contents of the print information 1 (1613) are, for example, as shown in FIG. 26. A dot image processing section 205 or a PDL processing section 206 interprets the print information 1 (1613) and processes print data in the storage location indicated in a print data storage location 3140 204. Thus, the spooled print job contents are print information only and print data of a comparatively large data size is accessed after the location of the print data is found from the print information, whereby it is made possible to reduce the copy time and the hard disk capacity.

